

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1-35. (Canceled).

36. (Currently Amended) A stent comprising:

a tubular body having a longitudinal axis, and having proximal and distal ends and a lumen extending longitudinally therebetween, and a wall having areas thereof removed to define a web structure configured for circumferential expansion from a contracted delivery configuration to an expanded deployed configuration;

the web structure comprising a plurality of web patterns interconnected with one another at a plurality of interconnection locations, and that are arranged so that the web patterns are situated side-by-side along the longitudinal length of the tubular body, with each web pattern also extending circumferentially around the wall;

at least one of said interconnected web patterns comprising,

at least three webs joined end-to-end so as to extend between a first pair of interconnection locations with no intervening interconnection locations between the first pair of interconnection locations;

said three webs that are joined end-to-end being joined by two bends so that the bends permit the three webs to be generally foldable between the first pair of interconnection locations when said tubular body is in the contracted delivery configuration, and then unfolded when said tubular body is expanded to the deployed configuration;

a single web connected between a second pair of interconnection locations with no intervening interconnection locations between the second pair of interconnection locations; and

~~at least one of said~~ at least three webs each comprising a plurality of web sections, with one of the web sections being angled relative to one other web section when the stent is in the expanded deployed configuration.

37. (Previously Presented) The stent of claim 36, further comprising a coating on the web structure that comprises a therapeutic agent, and wherein the therapeutic agent is chosen from the group consisting of therapeutic agents that retard thrombus formation, therapeutic agents that retard restenosis, and therapeutic agents for systemic or local delivery via the blood stream.
38. (Previously Presented) The stent of claim 36, wherein the interconnection locations are comprised of either or both connection elements and transition sections, and wherein each circumferential pair of connection elements or transition sections are separated by at least three webs.
39. (Previously Presented) The stent of claim 36, wherein at least some interconnection locations comprise transition sections that each define an H-shaped structure.
40. (Withdrawn) The stent of claim 39, wherein at least some of the arcuate webs span two H-shaped structures.
41. (Previously Presented) The stent of claim 39, wherein at least one of the H-shaped structures is disposed at an angle relative to the longitudinal axis of the stent.
42. (Previously Presented) The stent of claim 36, wherein each web comprises three web sections, with one of the sections being a central section joined at opposite ends thereof to two lateral sections, with at least one of the three web sections comprising a substantially straight section.
43. (Previously Presented) The stent of claim 42, wherein each web comprises three substantially straight sections, and wherein each of the lateral sections is angled relative to the central section when the stent is expanded, with each angle being expandable when the webs are unfolded to place the stent in the expanded deployed configuration.

44. (Previously Presented) The stent of claim 36, wherein the at least three webs are joined end-to-end in a manner that defines an S-shaped structure between the two and only two interconnection locations.

45. (Previously Presented) The stent of claim 36, wherein the stent is formed using a material so that the stent is balloon expandable when deployed.

46. (Previously Presented) The stent of claim 36, wherein the stent comprises a deformable material.

47. (Previously Presented) The stent of claim 46, wherein the deformable material is chosen from the group consisting of stainless steel and titanium.

48. (Previously Presented) The stent of claim 36, wherein the stent is formed using a shape memory alloy so that the stent is self-expanding when deployed.

49. (Previously Presented) The stent of claim 36, wherein at least a portion of the stent comprises a radiopaque material.

50. (Previously Presented) A stent comprising:

a tubular body having a longitudinal axis, and having proximal and distal ends and a lumen extending longitudinally therebetween, and a wall having areas thereof removed to define a web structure configured for circumferential expansion from a contracted delivery configuration to an expanded deployed configuration;

the web structure comprising a plurality of web patterns interconnected with one another at a plurality of interconnection locations, and that are arranged so that the web patterns are situated side-by-side along the longitudinal length of the tubular body, with each web pattern also extending circumferentially around the wall;

at least one of said interconnected web patterns comprising,

at least three webs joined end-to-end so as to extend between a first pair of interconnection locations defined as transition sections, with no intervening interconnection locations between the pair of transition sections;

said three webs that are joined end-to-end being joined by two bends so that the bends permit the three webs to be generally foldable between the first pair of transition sections when said tubular body is in the contracted delivery configuration, and then unfolded when said tubular body is expanded to the deployed configuration;

a single web connected between a second pair of interconnection locations defined as transition sections, with no intervening interconnection locations between the second pair of transition sections; and

each web comprising three web sections, with one of the web sections being a central section joined at opposite ends thereof to two lateral sections, each of the lateral sections being angled relative to the central section when the stent is in the expanded deployed configuration.

51. (Previously Presented) The stent of claim 50, further comprising a coating on the web structure that comprises a therapeutic agent, and wherein the therapeutic agent is chosen from the group consisting of therapeutic agents that retard thrombus formation, therapeutic agents that retard restenosis, and therapeutic agents for systemic or local delivery via the blood stream.

52. (Previously Presented) The stent of claim 50, wherein each transition section is separated, around the circumference of the wall, by at least five webs joined-end-to-end by four bends.

53. (Previously Presented) The stent of claim 50, wherein each transition section defines an H-shaped structure.

54. (Withdrawn) The stent of claim 50, wherein at least some of the arcuate webs span two H-shaped structures.

55. (Previously Presented) The stent of claim 53, wherein at least one of the H-shaped structures is disposed at an angle relative to a longitudinal axis of the stent.

56. (Currently Amended) The stent of claim 50, wherein ~~each web comprises three web sections, with one of the sections being a central section joined at opposite ends thereof to two lateral sections, with~~ at least one of the three web sections compris[ing]es a substantially straight section.

57. (Previously Presented) The stent of claim 56, wherein each web comprises three substantially straight sections, and wherein each of the lateral sections is angled relative to the central section when the stent is expanded, with each angle being expandable when the webs are unfolded to place the stent in the expanded deployed configuration.

58. (Previously Presented) The stent of claim 52, wherein the five webs are joined end-to-end in a manner that defines an S-shaped structure using at least three of the five webs.

59. (Previously Presented) The stent of claim 50, wherein the stent is formed using a material so that the stent is balloon expandable when deployed.

60. (Previously Presented) The stent of claim 50, wherein the stent comprises a deformable material.

61. (Previously Presented) The stent of claim 60, wherein the deformable material is chosen from the group consisting of stainless steel and titanium.

62. (Previously Presented) The stent of claim 50, wherein the stent is formed using a shape memory alloy so that the stent is self-expanding when deployed.

63. (Previously Presented) The stent of claim 50, wherein at least a portion of the stent comprises a radiopaque material.

64. (Currently Amended) A stent for supporting a vessel comprising:

a tubular body having a longitudinal axis, and having proximal and distal ends and a lumen extending longitudinally therebetween, and a wall having areas thereof removed to define a web structure configured for circumferential expansion from a contracted delivery configuration to an expanded deployed configuration;

the web structure comprising a plurality of web patterns that are interconnected with one another at a plurality of interconnection locations, and arranged so that the web patterns are situated side-by-side along the longitudinal length of the tubular body, with each web pattern also extending circumferentially around the wall;

at least one of said interconnected web patterns comprising,

at least three webs joined end-to-end so as to extend between a pair of interconnection locations with no other interconnection location between the pair of interconnection locations;

said three webs that are joined end-to-end being joined by two bends so that the bends permit the three webs to be generally foldable between the pair of interconnection locations when said tubular body is in the contracted delivery configuration, and then unfolded when said tubular body is expanded to the deployed configuration; and

~~at least one of said~~ at least three webs each comprising a plurality of web sections, with one of the web sections being angled relative to one other web section when the stent is in the expanded deployed configuration.

65. (Previously Presented) The apparatus of claim 64, further comprising a coating on the web structure that comprises a therapeutic agent, and wherein the therapeutic agent is chosen from the group consisting of therapeutic agents that retard thrombus formation, therapeutic agents that retard restenosis, and therapeutic agents for systemic or local delivery via the blood stream.

66. (Previously Presented) The apparatus of claim 64, wherein each interconnection location comprises a transition section that defines an H-shaped structure that spans adjacent pairs of webs.

67. (Previously Presented) The apparatus of claim 66, wherein at least one of the H-shaped structures is disposed at an angle relative to a longitudinal axis of the tube.

68. (Currently Amended) The apparatus of claim 66, wherein each at least one of the ~~three~~ web sections comprises a substantially straight section.

69. (Currently Amended) The apparatus of claim 68, wherein each web comprises three substantially straight sections, ~~and wherein each of the lateral sections is angled relative to the central section when the stent is expanded, with each angle being expandable when the webs are unfolded to place the stent in the expanded deployed configuration.~~

70. (Previously Presented) The apparatus of claim 68, wherein each transition section interconnects a web pattern, and wherein said at least three webs joined end-to-end define an S-shaped structure.

71. (Previously Presented) The apparatus of claim 64, wherein the tube is formed using a material so that the stent is balloon expandable when deployed.

72. (Previously Presented) The apparatus of claim 64, wherein the tube comprises a deformable material.

73. (Previously Presented) The apparatus of claim 72, wherein the deformable material is chosen from the group consisting of stainless steel and titanium.

74. (Previously Presented) The apparatus of claim 64, wherein the tube is formed using a shape memory alloy so that the stent is self-expanding when deployed.

75. (Previously Presented) The apparatus of claim 64, wherein at least a portion of the stent comprises a radiopaque material.

76. (Previously Presented) A stent comprising:

a tubular body having a longitudinal axis, and having proximal and distal ends and a lumen extending longitudinally therebetween, and a wall having areas thereof removed to define a web structure configured for circumferential expansion from a contracted delivery configuration to an expanded deployed configuration;

the web structure comprising a plurality of web patterns that are interconnected with one another at a plurality of interconnection locations, and arranged so that the web patterns are situated side-by-side along the longitudinal length of the tubular body, with each web pattern also extending circumferentially around the wall;

at least one of said interconnected web patterns comprising,

at least three webs joined end-to-end so as to extend between a pair of interconnection locations defined as transition sections, with no intervening interconnection location between the pair of transition sections;

said three webs that are joined end-to-end being joined by two bends so that the bends permit the three webs to be generally foldable between the pair of transition sections when said tubular body is in the contracted delivery configuration, and then unfolded when said tubular body is expanded to the deployed configuration; and

each web comprising three web sections, with one of the web sections being a central section joined at opposite ends thereof to two lateral sections, each of the lateral sections being angled relative to the central section when the stent is in the expanded deployed configuration.

77. (Previously Presented) The stent of claim 76, further comprising a coating on the web structure that comprises a therapeutic agent, and wherein the therapeutic agent is chosen from the group consisting of therapeutic agents that retard thrombus formation, therapeutic agents that retard restenosis, and therapeutic agents for systemic or local delivery via the blood stream.

78. (Withdrawn) The stent of claim 76, wherein the arcuate webs have a first width relative to the circumference of the tube, and the transition sections have a second width relative to the circumference of the tube, wherein the second width is about twice the first width.

79. (Withdrawn) The stent of claim 76, wherein the transition sections define H-shaped structures.
80. (Withdrawn) The stent of claim 79, wherein at least one of the H-shaped structures is disposed at an angle relative to a longitudinal axis of the tube.
81. (Withdrawn) The stent of claim 76, wherein each arcuate web comprises at least one substantially straight section.
82. (Withdrawn) The stent of claim 81, wherein each arcuate web comprises three substantially straight sections.
83. (Withdrawn) The stent of claim 76, wherein transition sections interconnecting each web pattern to neighboring web patterns are separated by at least three arcuate webs that define an S-shaped structure.
84. (Withdrawn) The stent of claim 76, wherein the stent is balloon expandable.
85. (Withdrawn) The stent of claim 76, wherein the stent comprises a deformable material.
86. (Withdrawn) The stent of claim 85, wherein the deformable material is chosen from the group consisting of stainless steel and titanium.
87. (Withdrawn) The stent of claim 76, wherein the stent is self- expanding.
88. (Withdrawn) The stent of claim 76, further comprising a radiopaque feature.
89. (Withdrawn) A stent comprising:
a tube having proximal and distal ends and a lumen extending from the proximal to the distal end, the tube comprising a web structure having a contracted delivery state and an expanded deployed state,

wherein the web structure includes a plurality of neighboring web patterns of alternating concavity, each web pattern including a plurality of arcuate webs, neighboring web patterns interconnected by transition sections that span pairs of adjacent arcuate webs, at least some of the transition sections of neighboring patterns offset by at least one additional arcuate web; and
a coating on the web structure that comprises a therapeutic agent.

90. (Withdrawn) The stent of claim 89, wherein the therapeutic agent is chosen from the group consisting of therapeutic agents that retard thrombus formation, therapeutic agents that retard restenosis, and therapeutic agents for systemic or local delivery via the blood stream.

91. (Withdrawn) The stent of claim 89, wherein the transition sections define H-shaped structures.

92. (Withdrawn) The stent of claim 91, wherein at least one of the H-shaped structures is disposed at an angle relative to a longitudinal axis of the stent.

93. (Withdrawn) The stent of claim 89, wherein each arcuate web comprises at least one substantially straight section.

94. (Withdrawn) The stent of claim 93, wherein each arcuate web comprises three substantially straight sections.

95. (Withdrawn) The stent of claim 89, wherein transition sections interconnecting a web pattern to a neighboring web pattern are separated by three arcuate webs that define an S-shaped structure.

96. (Withdrawn) The stent of claim 89, wherein the stent is balloon expandable.

97. (Withdrawn) The stent of claim 89, wherein the stent comprises a deformable material.

98. (Withdrawn) The stent of claim 97, wherein the deformable material is chosen from the group consisting of stainless steel and titanium.

99. (Withdrawn) The stent of claim 89, wherein the stent is self-expanding.
100. (Withdrawn) The stent of claim 89, further comprising a radiopaque feature.
101. (Withdrawn) Apparatus for supporting a vessel comprising:
a tubular body having a web structure defining a wall, the web structure configured to transition between a collapsed state and an expanded state,
wherein the web structure comprises a plurality of neighboring web patterns, each web pattern including a plurality of arcuate webs interconnected by bends, the arcuate webs of neighboring web patterns alternating between concave and convex forms relative to a longitudinal axis of the tubular body, the neighboring web patterns interconnected by H-shaped transition sections separated, around a circumference of the wall, by at least two bends; and
a coating on the web structure that comprises a therapeutic agent.
102. (Withdrawn) The apparatus of claim 101, wherein the therapeutic agent is chosen from the group consisting of therapeutic agents that retard thrombus formation, therapeutic agents that retard restenosis, and therapeutic agents for systemic or local delivery via the blood stream.
103. (Withdrawn) The apparatus of claim 101, wherein the arcuate webs have a first width relative to the circumference of the tubular body, and the H-shaped transition sections have a second width, relative to the circumference of the tubular body, about twice the first width.
104. (Withdrawn) The apparatus of claim 101, wherein at least one of the H-shaped transition sections is disposed at an angle relative to a longitudinal axis of the tubular body.
105. (Withdrawn) The apparatus of claim 101, wherein each arcuate web comprises at least one substantially straight section.
106. (Withdrawn) The apparatus of claim 105, wherein each arcuate web comprises three substantially straight sections.

107. (Withdrawn) The apparatus of claim 101, wherein the H-shaped transition sections interconnecting each web pattern to neighboring web patterns are separated by three arcuate webs that define an S-shaped structure.

108. (Withdrawn) The apparatus of claim 101, wherein the tubular body is balloon expandable.

109. (Withdrawn) The apparatus of claim 101, wherein the tubular body comprises a deformable material.

110. (Withdrawn) The apparatus of claim 109, wherein the deformable material is chosen from the group consisting of stainless steel and titanium.

111. (Withdrawn) The apparatus of claim 101, wherein the tubular body is self-expanding.

112. (Withdrawn) The apparatus of claim 101, further comprising a radiopaque feature.

113. (Previously Presented) The stent of claim 36, wherein one or more of the webs is not substantially straight from end to end.

114. (Previously Presented) The stent of claim 36, wherein one or more of the webs is concave in shape.

115. (Previously Presented) The stent of claim 36, wherein each of a first and second adjacent web pattern contain webs such that the webs of said first web pattern are generally oriented to the longitudinal axis at a first angle and the webs of the second web pattern are generally oriented to the longitudinal axis at a second angle.

116. (Previously Presented) The stent of claim 50, wherein one or more of the webs is not substantially straight from end to end.

117. (Previously Presented) The stent of claim 50, wherein one or more of the webs is concave in shape.

118. (Previously Presented) The stent of claim 50, wherein each of a first and second adjacent web pattern contain webs such that the webs of said first web pattern are generally oriented to the longitudinal axis at a first angle and the webs of the second web pattern are generally oriented to the longitudinal axis at a second angle.